

IN THE CLAIMSRECEIVED
CENTRAL FAX CENTER

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1-36 (canceled)

37. (new) A material comprising:

70 to 97 vol % component A comprising alpha- and beta-SiAlON and an amorphous or partially crystalline grain-boundary phase; and

3 to 30 vol.% of component B comprising a hard material wherein the hard material has an average grain size;

wherein when sintered to form a sintered compact having a sintered surface, the sintered compact has a hardness of 1550 HV 10 and has an alpha-SiAlON gradient which decreases from outside the compact to inside the compact;

wherein the alpha-SiAlON content of the sintered surface ranges up to 100%,

wherein said hard material is at least one of SiC, Ti(C,N), TiC, TiN, a carbide of an element from one of groups IVb, Vb and VIb of the periodic table, scandium carbide, scandium oxycarbide or a nitride of an element from one of groups IVa, Vb and VIb of the periodic table, wherein the state of the hard material remains unchanged after sintering;

wherein the content of grain-boundary phase is less than 10 vol.%;

wherein in the sintered state inside said sintered compact the amount of alpha-SiAlON present ranges from 10 to 90 vol.%; and

wherein the amount of beta-SiAlON ranges from 10 to 90 vol.%.

38. (new) The material according to claim 37, wherein grain-boundary phase is less than 5 vol.% and the grain-boundary phase is partially crystalline.

39. (new) The material according to claim 37, wherein the grain-boundary phase is crystalline and contains aluminum-containing melilite or disilicate.

40. (new) The material according to claim 37, wherein a maximum grain size of the alpha- and beta-SiAlON is less than 90 μm .

41. (new) The material according to claim 37, wherein the average grain size of the hard material is less than 30 μm .

42. (new) The material according to claim 41, wherein said hard material grains are globular, whisker-shaped or platelet-shaped.

43. (new) The material according to claim 37, coated with a wear-reducing coating.

44. (new) A process for producing the material of claim 37, comprising powder mixing, shaping, sintering and grinding.

45. (new) A process according to claim 44, wherein component A is formed during a heat treatment at temperatures of 1800 to 2000°C and retention times at the maximum temperature of 0.5 to 5 hours.

46. (new) A process according to claim 44, wherein gas atmosphere during sintering is inert.

47. (new) The material produced by the process of claim 44.

48. (new) The material according to claim 43, wherein said wear-reducing coating comprises at least one of Al_2O_3 , TiN or TiC.

49. (new) A process according to claim 46, wherein the gas atmosphere comprises N_2 or a mixture of N_2 and another inert gas.

50. A process according to claim 46, wherein the atmosphere comprises argon.